

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 12446750

Frame	: 284/6TC	Cooling method	: IC411 - TEFC
Insulation class	: F	Mounting	: F-1
Duty cycle	: Cont.(S1)	Rotation <sup>1</sup>	: Both (CW and CCW)
Ambient temperature	: -20°C to +40°C	Starting method	: Direct On Line
Altitude	: 1000 m.a.s.l.	Approx. weight <sup>3</sup>	: 182 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.3310 kgm <sup>2</sup>
Design	: B		

Output [HP]	15	10	10	10	15	15	15
Poles	6	6	6	6	6	6	6
Frequency [Hz]	60	50	50	50	50	50	50
Rated voltage [V]	230/460	380	400	415	380	400	415
Rated current [A]	35.8/17.9	15.5	15.1	15.0	22.0	20.9	20.2
L. R. Amperes [A]	229/115	112	119	124	103	111	117
LRC [A]	6.4x(Code G)	7.2x(Code J)	7.9x(Code K)	8.3x(Code K)	4.7x(Code E)	5.3x(Code F)	5.8x(Code G)
No load current [A]	14.0/7.00	7.00	7.40	7.70	7.00	7.40	7.70
Rated speed [RPM]	1175	980	985	985	970	975	975
Slip [%]	2.08	2.00	1.50	1.50	3.00	2.50	2.50
Rated torque [kgfm]	9.26	7.41	7.37	7.37	11.2	11.2	11.2
Locked rotor torque [%]	229	270	300	330	170	200	220
Breakdown torque [%]	260	300	340	360	200	229	250
Service factor	1.25	1.25	1.25	1.25	1.00	1.15	1.15
Temperature rise	80 K	80 K	80 K	80 K	80 K	80 K	80 K
Locked rotor time	36s (cold) 20s (hot)	57s (cold) 32s (hot)	52s (cold) 29s (hot)	48s (cold) 27s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)
Noise level <sup>2</sup>	59.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)
Efficiency (%)	25%						
	50%	91.0	89.0	89.1	89.1	91.0	90.2
	75%	91.7	89.4	89.5	89.5	90.2	90.2
	100%	91.7	89.4	89.5	89.5	88.5	89.5
Power Factor	25%						
	50%	0.69	0.64	0.61	0.58	0.75	0.72
	75%	0.80	0.76	0.73	0.71	0.83	0.81
	100%	0.84	0.82	0.80	0.78	0.86	0.85

Losses at normative operating points (speed;torque), in percentage of rated output power

Losses (%)	P1 (0,9;1,0)	8.6	11.2	11.1	11.1	12.3	11.1	10.3
	P2 (0,5;1,0)	6.9	9.1	9.0	9.0	10.0	9.0	8.3
	P3 (0,25;1,0)	6.2	8.1	8.0	8.0	8.9	8.0	7.4
	P4 (0,9;0,5)	4.3	5.6	5.6	5.6	6.2	5.6	5.2
	P5 (0,5;0,5)	2.8	3.6	3.6	3.6	4.0	3.6	3.3
	P6 (0,5;0,25)	1.8	2.4	2.4	2.4	2.6	2.4	2.2
	P7 (0,25;0,25)	1.2	1.6	1.6	1.6	1.8	1.6	1.5

Bearing type	Drive end	Non drive end	Foundation loads
	: 6311 C3	: 6211 C3	
	Sealing	V'Ring	
	: V'Ring	: V'Ring	
	Lubrication interval	20000 h	
Lubricant amount	: 20000 h	20000 h	Max. traction : 308 kgf
	: 18 g	11 g	
	: 18 g	11 g	
Lubricant type		Mobil Polyrex EM	Max. compression : 490 kgf

This revision replaces and cancel the previous one, which must be eliminated.  
(1) Looking the motor from the shaft end.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in NEMA MG-1.

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## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Notes  
USABLE @208V 39.6A SF 1.15 SFA 45.5A

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# LOAD PERFORMANCE CURVE

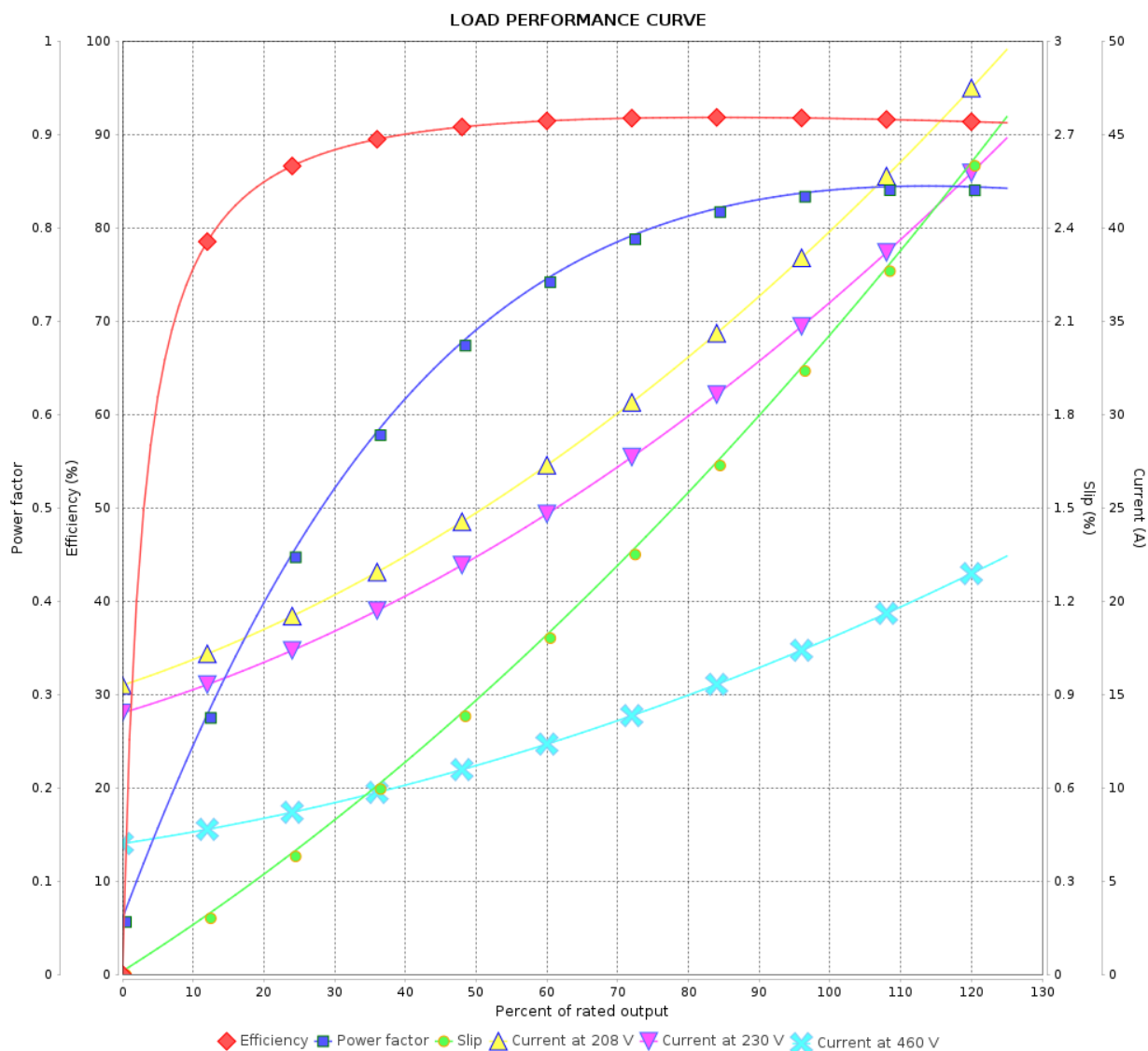
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12446750



Performance : 230/460 V 60 Hz 6P

Rated current : 35.8/17.9 A  
LRC : 6.4  
Rated torque : 9.26 kgfm  
Locked rotor torque : 229 %  
Breakdown torque : 260 %  
Rated speed : 1175 rpm

Moment of inertia (J) : 0.3310 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

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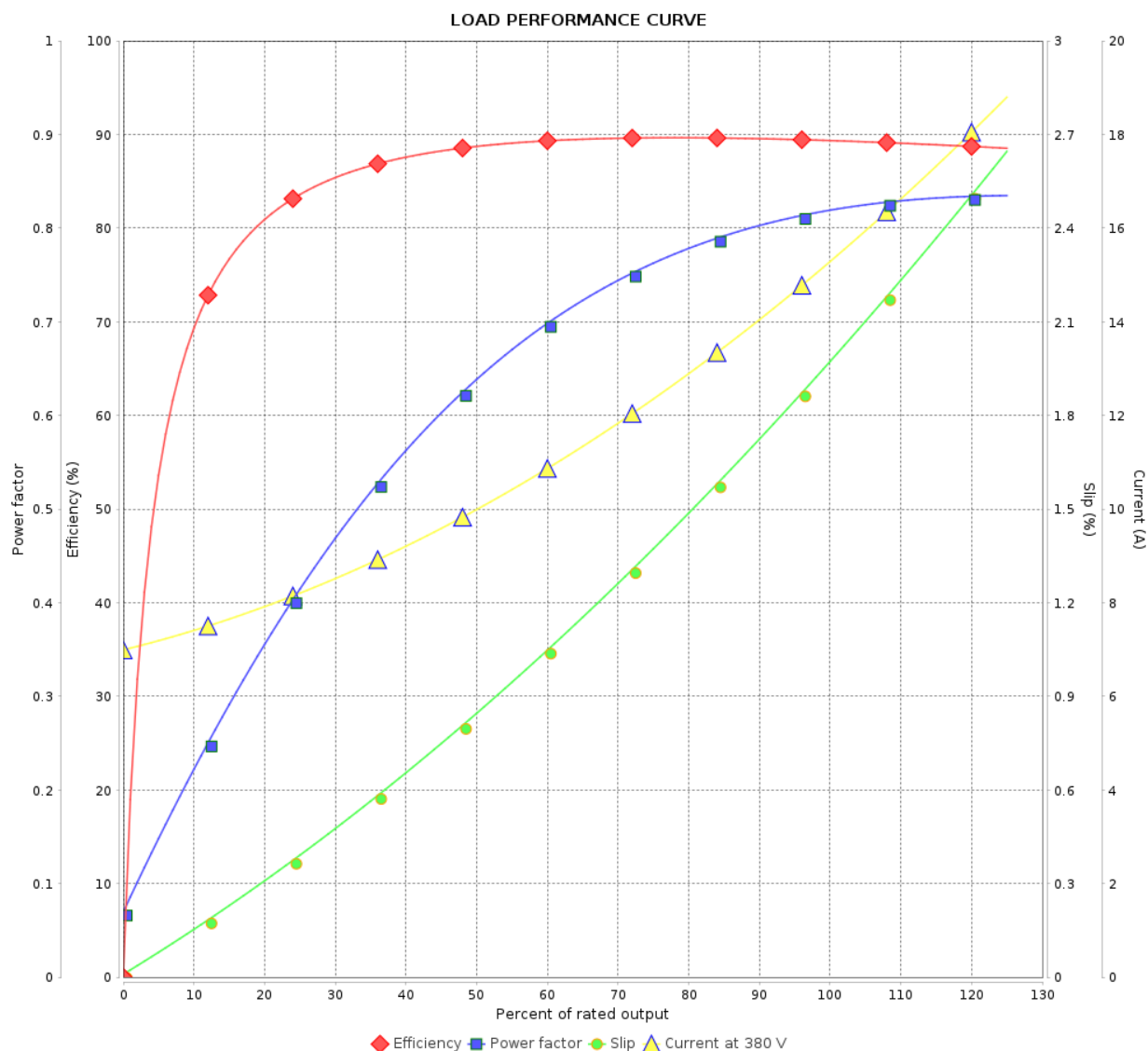
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12446750



Performance : 380 V 50 Hz 6P IE3

Rated current : 15.5 A  
LRC : 7.2  
Rated torque : 7.41 kgfm  
Locked rotor torque : 270 %  
Breakdown torque : 300 %  
Rated speed : 980 rpm

Moment of inertia (J) : 0.3310 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

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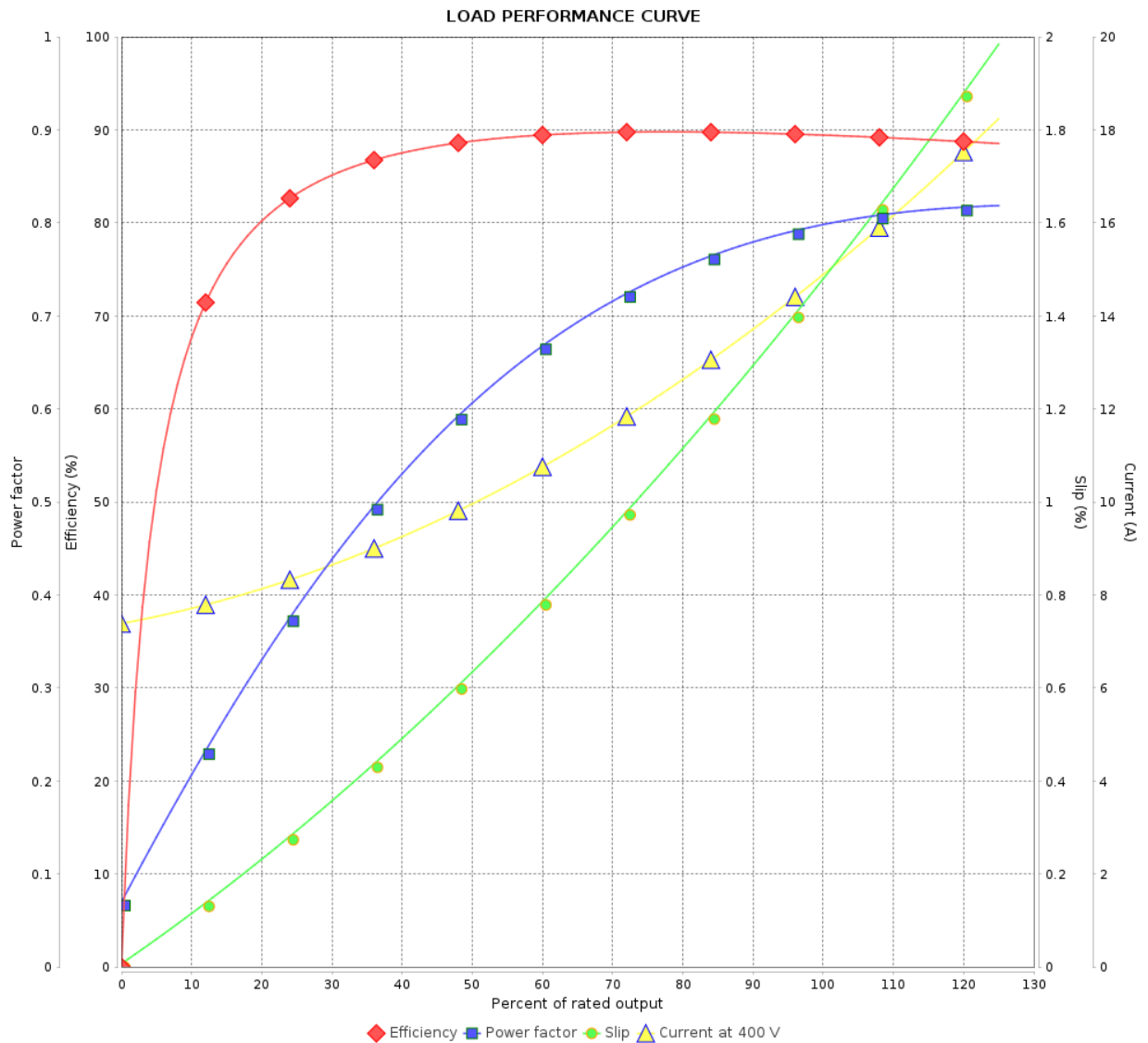
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12446750



Performance : 400 V 50 Hz 6P IE3

Rated current	: 15.1 A	Moment of inertia (J)	: 0.3310 kgm <sup>2</sup>
LRC	: 7.9	Duty cycle	: Cont.(S1)
Rated torque	: 7.37 kgfm	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.25
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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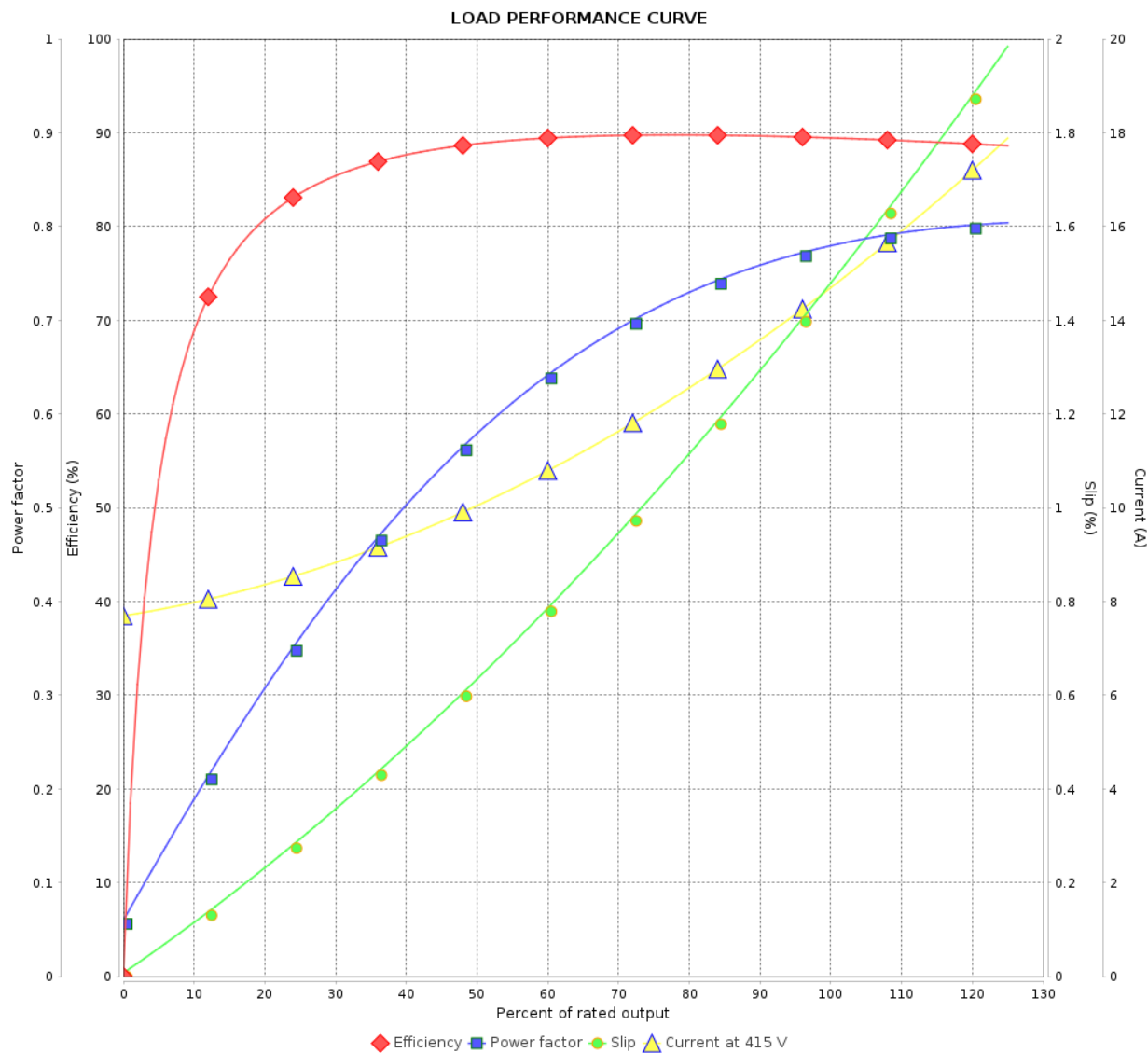
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12446750



Performance : 415 V 50 Hz 6P IE3

Rated current : 15.0 A  
LRC : 8.3  
Rated torque : 7.37 kgfm  
Locked rotor torque : 330 %  
Breakdown torque : 360 %  
Rated speed : 985 rpm

Moment of inertia (J) : 0.3310 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

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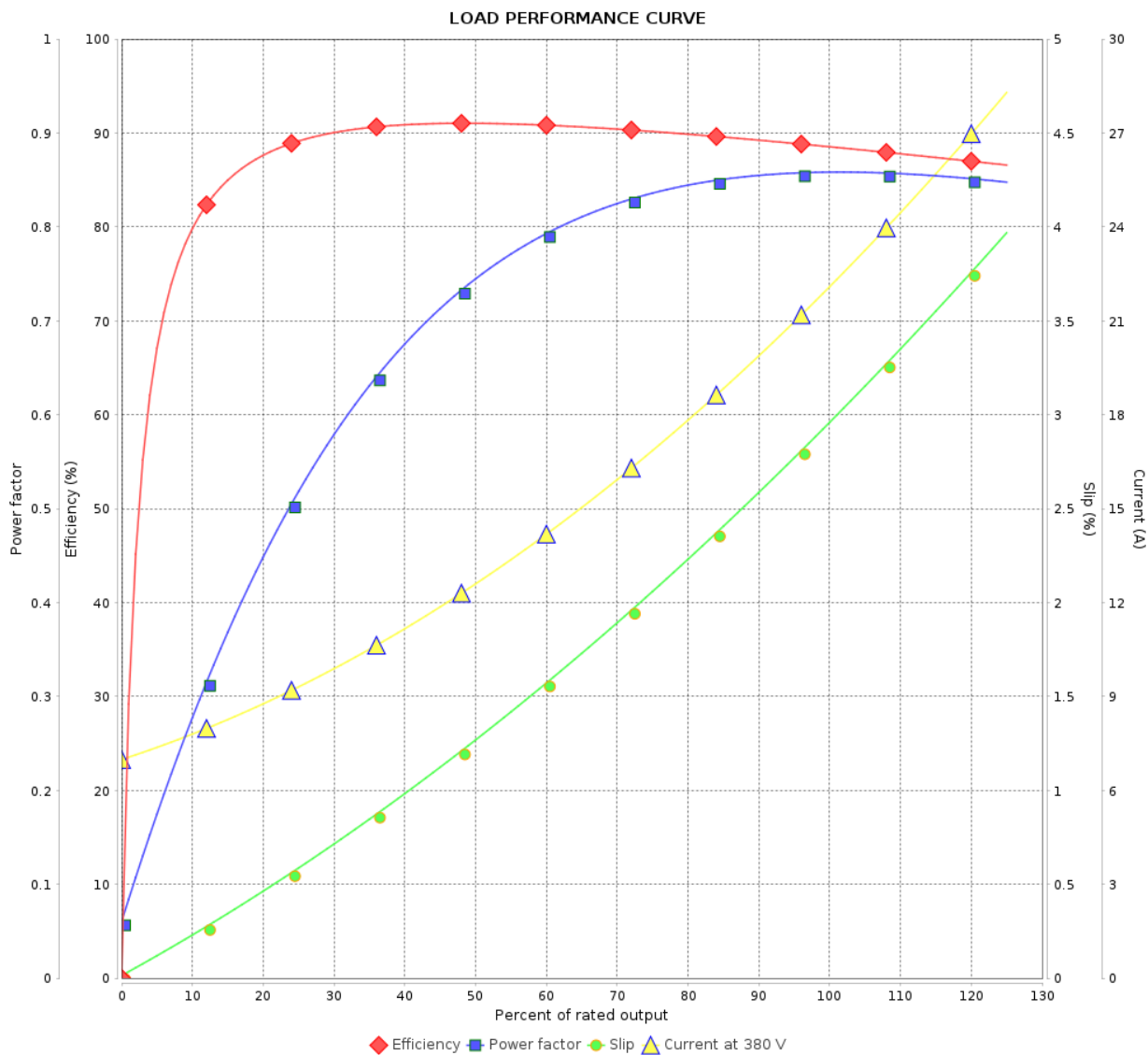
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12446750



Performance : 380 V 50 Hz 6P IE1

Rated current : 22.0 A  
LRC : 4.7  
Rated torque : 11.2 kgfm  
Locked rotor torque : 170 %  
Breakdown torque : 200 %  
Rated speed : 970 rpm

Moment of inertia (J) : 0.3310 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

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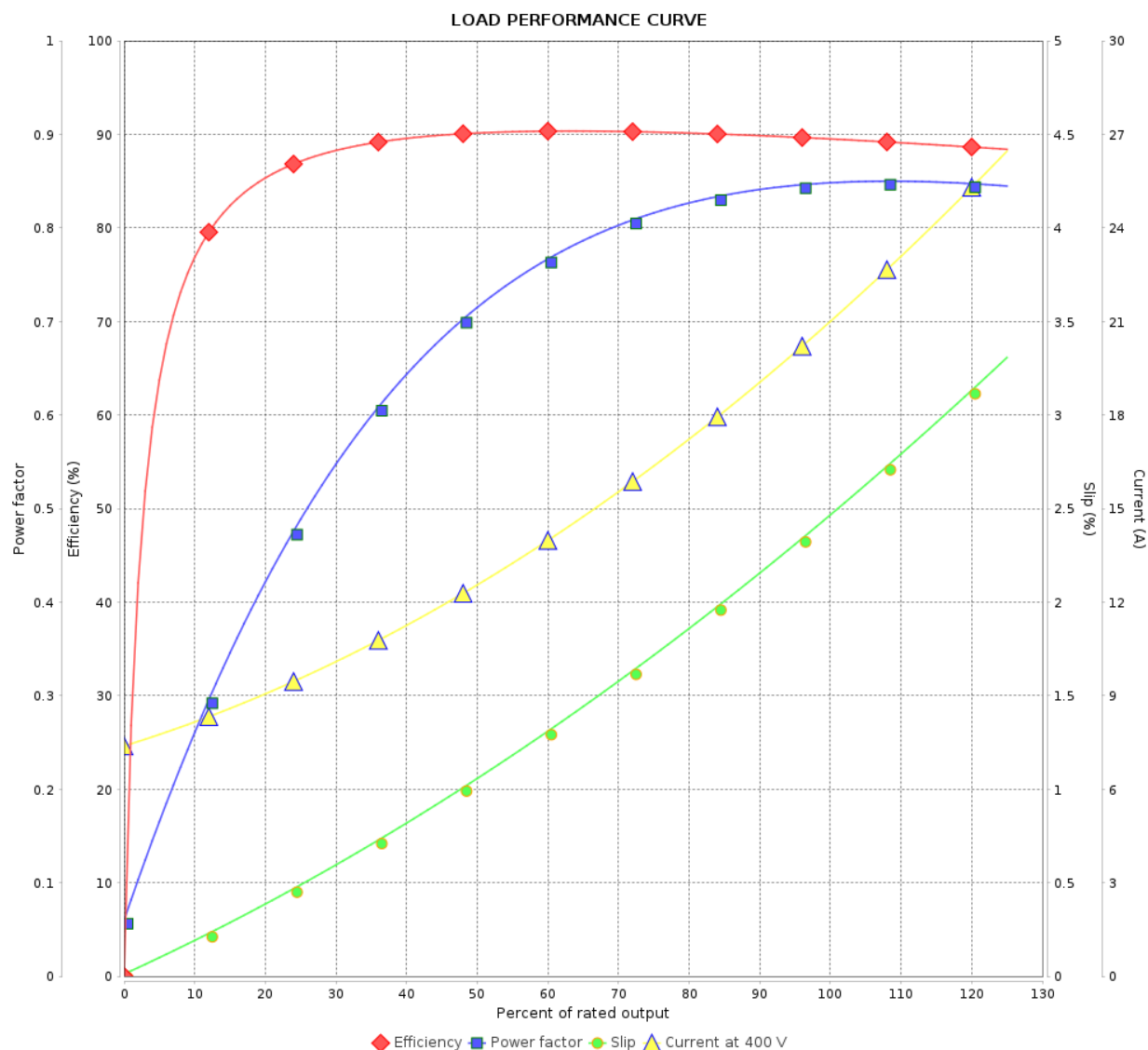
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12446750



Performance : 400 V 50 Hz 6P IE2

Rated current : 20.9 A  
LRC : 5.3  
Rated torque : 11.2 kgfm  
Locked rotor torque : 200 %  
Breakdown torque : 229 %  
Rated speed : 975 rpm

Moment of inertia (J) : 0.3310 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

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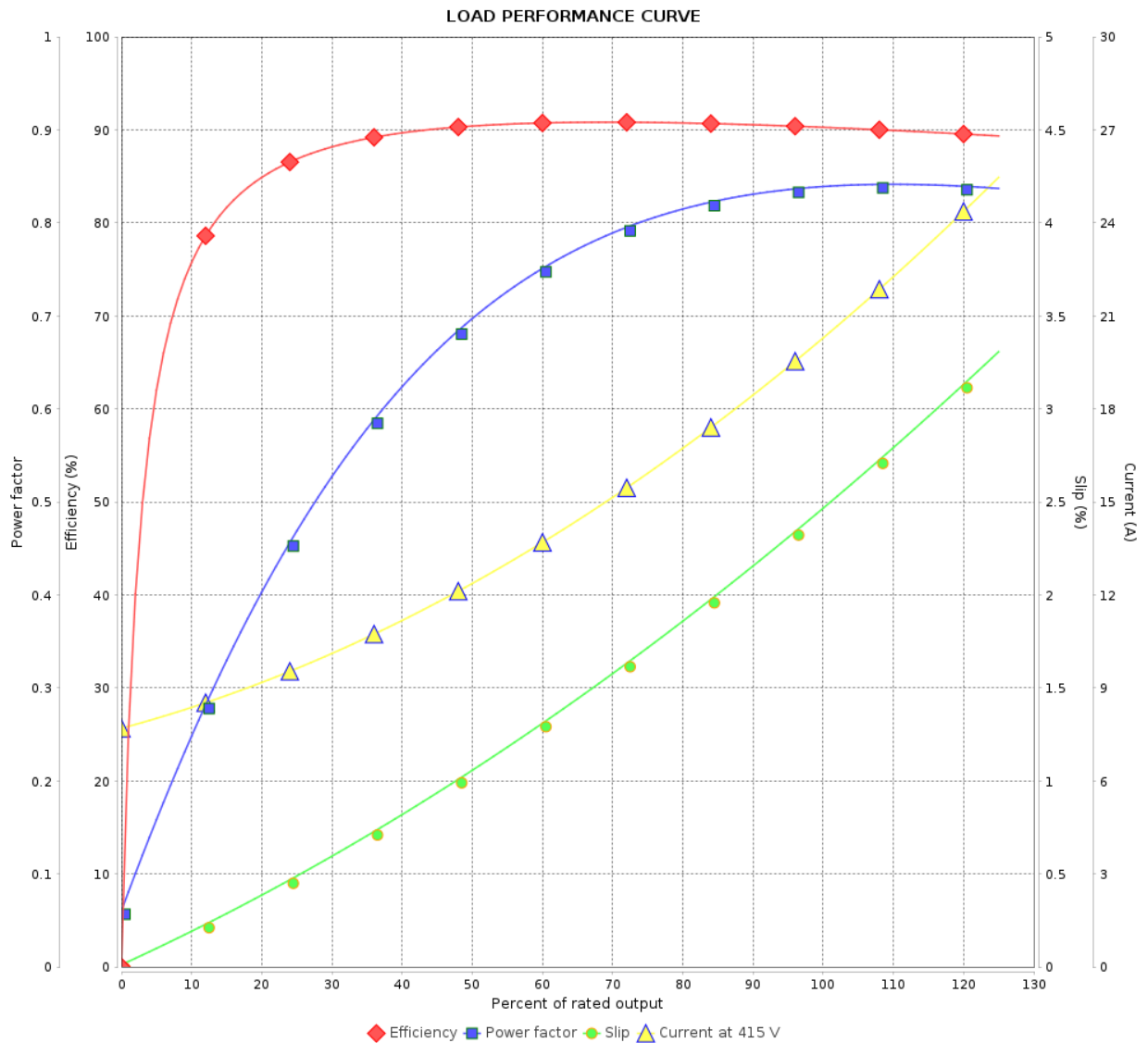
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12446750



Performance : 415 V 50 Hz 6P IE2

Rated current	: 20.2 A	Moment of inertia (J)	: 0.3310 kgm <sup>2</sup>
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 11.2 kgfm	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 975 rpm	Design	: B

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